Search History

STN

HCAPLUS, INSPEC, JAPIO, INPAFAMC, USPATALL

1/26/05

=> d l14 1-4 abs,bib

L14 ANSWER 1 OF 4 USPATFULL on STN

AB **Indium Nitride** (**InN**) and Indium-rich Indium Gallium Nitride (InGaN) **quantum dots** embedded in single and **multiple** In.sub.xGa.sub.1-xN/In.sub.yGa.sub.1-yN quantum wells (QWs) are formed by using TMIn and/or Triethylindium (TEIn), Ethyldimethylindium (EDMIn) as antisurfactant during MOCVD growth, wherein the photoluminescence wavelength from these dots ranges from 480 nm to 530 nm. Controlled amounts of TMIn and/or other Indium precursors are important in triggering the formation of dislocation-free QDs, as are the subsequent flows of ammonia and TMIn. This method can be readily used for the growth of the active layers of blue and green light emitting diodes (LEDs).

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AN 2004:31288 USPATFULL

TI Forming **indium nitride** (**InN**) and indium gallium nitride (InGaN) **quantum dots** grown by metal-organic-vapor-phase-epitaxy (MOCVD)

IN Chua, Soo Jin, Singapore, SINGAPORE
Li, Peng, Singapore, SINGAPORE
Hao, Maosheng, Singapore, SINGAPORE
Zhang, Ji, Sngapore, SINGAPORE

PA UNIVERSITY OF SINGAPORE (non-U.S. corporation)
INSTITUTE OF MATERIALS RESEARCH & ENGINEERING (non-U.S. corporation)

PI US 2004023427 A1 20040205

AI US 2003-633652 A1 20030805 (10)

RLI Division of Ser. No. US 2001-963616, filed on 27 Sep 2001, GRANTED, Pat. No. US 6645885

DT Utility

FS APPLICATION

LREP BIRCH STEWART KOLASCH & BIRCH, PO BOX 747, FALLS CHURCH, VA, 22040-0747

CLMN Number of Claims: 10

ECL Exemplary Claim: 1

DRWN 4 Drawing Page(s)

LN.CNT 366

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L14 ANSWER 2 OF 4 USPATFULL on STN

AB **Indium Nitride** (**InN**) and Indium-rich Indium Gallium Nitride (InGaN) **quantum dots** embedded in single and **multiple** In.sub.xGa.sub.1-xN/In.sub.yGa.sub.1-yN quantum wells (QWs) are formed by using TMIn and/or Triethylindium (TEIn), Ethyldimethylindium (EDMIn) as antisurfactant during MOCVD growth, wherein the photoluminescence wavelength from these dots ranges from 480 nm to 530 nm. Controlled amounts of TMIn and/or other Indium precursors are important in triggering the formation of dislocation-free QDs, as are the subsequent flows of ammonia and TMIn. This method can be readily used for the growth of the active layers of blue and green light emitting diodes (LEDs).

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AN 2003:86365 USPATFULL

TI Forming **indium nitride** (**InN**) and indium gallium nitride (InGaN) **quantum dots** grown by metal-organic-vapor-phase-epitaxy (MOCVD)

IN Chua, Soo Jin, Singapore, SINGAPORE
Li, Peng, Singapore, SINGAPORE
Hao, Maosheng, Singapore, SINGAPORE
Zhang, Ji, Singapore, SINGAPORE

PI US 2003059971 A1 20030327

PI US 6645885 B2 20031111
AI US 2001-963616 A1 20010927 (9)
DT Utility
FS APPLICATION
LREP BIRCH STEWART KOLASCH & BIRCH, PO BOX 747, FALLS CHURCH, VA, 22040-0747
CLMN Number of Claims: 15
ECL Exemplary Claim: 1
DRWN 4 Drawing Page(s)
LN.CNT 363
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L14 ANSWER 3 OF 4 USPATFULL on STN
AB A quantum semiconductor device includes a plurality of intermediate layers stacked on each other repeatedly, each being formed of a first semiconductor crystal having a first lattice constant and including a **plurality** of **quantum dots** of a second semiconductor crystal having a second lattice constant different from the first lattice constant, the second semiconductor crystal forming thereby a strained system with respect to the first semiconductor crystal, each of the quantum dots in an intermediate layer having a height substantially identical with a thickness of the intermediate layer, each quantum dot in an intermediate layer aligning with another quantum dot in an adjacent intermediate layer in a direction perpendicular to a principal surface of the intermediate layer, each of the intermediate layers having a thickness equal to or smaller than a Bohr-radius of carriers in said intermediate layer, wherein the second semiconductor crystal contains N.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AN 2001:11146 USPATFULL
TI Quantum semiconductor device having a quantum dot structure
IN Sugiyama, Yoshihiro, Kawasaki, Japan
PA Fujitsu Limited, Kawasaki, Japan (non-U.S. corporation)
PI US 6177684 B1 20010123
AI US 1998-123981 19980729 (9)
PRAI JP 1998-66899 19980317
DT Utility
FS Granted
EXNAM Primary Examiner: Jackson, Jr., Jerome
LREP Armstrong, Westerman, Hattori, McLeland & Naughton
CLMN Number of Claims: 18
ECL Exemplary Claim: 1
DRWN 12 Drawing Figure(s); 9 Drawing Page(s)
LN.CNT 835
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L14 ANSWER 4 OF 4 USPAT2 on STN
AB **Indium Nitride** (**InN**) and Indium-rich Indium Gallium Nitride (InGaN) **quantum dots** embedded in single and **multiple** In.sub.xGa.sub.1-xN/In.sub.yGa.sub.1-yN quantum wells (QWs) are formed by using TMIn and/or Triethylindium (TEIn), Ethyldimethylindium (EDMIn) as antisurfactant during MOCVD growth, wherein the photoluminescence wavelength from these dots ranges from 480 nm to 530 nm. Controlled amounts of TMIn and/or other Indium precursors are important in triggering the formation of dislocation-free QDs, as are the subsequent flows of ammonia and TMIn. This method can be readily used for the growth of the active layers of blue and green light emitting diodes (LEDs).

CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AN 2003:86365 USPAT2
TI Forming **indium nitride** (**InN**) and indium gallium nitride (InGaN) **quantum dots** grown by

metal-organic-vapor-phase-epitaxy (MOCVD)
IN Chua, Soo Jin, Singapore, SINGAPORE
Li, Peng, Singapore, SINGAPORE
Hao, Maosheng, Singapore, SINGAPORE
Zhang, Ji, Singapore, SINGAPORE
PA The National University of Singapore, Singapore, SINGAPORE (non-U.S. corporation)
Institute of Materials Research & Engineering, Singapore, SINGAPORE (non-U.S. corporation)
PI US 6645885 B2 20031111
AI US 2001-963616 20010927 (9)
DT Utility
FS GRANTED
EXNAM Primary Examiner: Cuneo, Kamand; Assistant Examiner: Kilday, Lisa
LREP Birch, Stewart, Kolasch & Birch, LLP
CLMN Number of Claims: 10
ECL Exemplary Claim: 1
DRWN 5 Drawing Figure(s); 4 Drawing Page(s)
LN.CNT 321
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

=> d his

(FILE 'HOME' ENTERED AT 11:04:55 ON 26 JAN 2005)

FILE 'HCAPLUS, INSPEC, JAPIO, USPATFULL, USPAT2, INPADOC' ENTERED AT 11:05:39 ON 26 JAN 2005

L1 200 S (QUANTUM(W)DOT#)(10A)(INN OR INDIUM(W)NITRIDE)
L2 1075 S (PLURAL? OR MULTIP?)(8A)(QUANTUM(W)DOT#)
L3 82804 S (DEPOSIT? OR LAYER? OR COVER? OR COAT?)(10A)(BUFFER)
L4 703933 S (CONTROL? OR ALTER? OR VARY? OR CHANG? OR MANIPULAT?)(8A)(TEM
L5 6536 S (GAN OR GALIIUM(W)NITRIDE)(8A)(ALN OR ALUMINUM(W)NITRIDE)
L6 2471 S (ISOLAT? OR QUARANTIN? OR INSULAT? OR SEPARAT? OR SEGREGAT? O
L7 40261 S (SINGLE OR ALON? OR ONE)(8A)(PHOTON OR PHOTON(4A)SOURCE)
L8 0 S L2 AND L6
L9 2519 S L3 AND L5
L10 1035 S (CRYSTALLINE(6A)BUFFER#)
L11 12379 S (MOVPE OR METAL(W)ORGANIC(W)VAPOR(W)PHASE(W)EPITAXY)
L12 0 S L1 AND L2 AND L3 AND L4 AND L5
L13 5 S L1 AND L2 AND L3
L14 4 S L1 AND L2 AND L3 AND L4

=>

Examiner's Notes

[redacted]

22, 46, 47

438/962

Ross Hunt

~~Douglas E. Jackson~~

Tel#(703) 739-4900

10/689,841

L1 S (quantum (w) dot#) (10a) (InN or indium (w) nitride
L2 S (plural? or multip?) (8a) (quantum (w) dot#)
L3 S (deposit? or layer? or cover? or coat?) (8a) (buffer)
L4 S (~~[redacted]~~ control? or alter? or vary? or chang? or manipulat?) (8a) (temperature or temperature (6a) grow?) (w) buffer
L5 S (GaN or gallium (w) ~~Nitride~~ nitride) (8a) (AlN or aluminum (w) nitride (6a) buffer)
L6 S (isolat? or quarantin? or insulat? or separat? or segregat? or segnest?) (8a) (microelectron?)
L7 S (single or alon? or one) (10a) (photon or phonic (4a) source)
L8 S L2 and L6
L9 S L3 and L5
L10 S (crystalline (6a) buffer)
L11 S (MOVPE or metal (w) organic (w) vapor (w) phase (w) epitaxy)